

WHAT IS CLAIMED IS:  
~~Claims:~~

1. Curtain coater for coating a moving web (2) of paper or board, the curtain coater comprising an applicator nozzle (1) located above the web (2) to be coated so as to apply the coating mix therefrom to the surface of the web (2) in the form of a continuous curtain extending uniformly over the cross-machine width of the web (2), and doctoring means (3) serving to remove the boundary air layer traveling on the surface of the web (2) by being located upstream in the travel direction of the web (2) in front of the impingement point of the coating mix curtain on the surface of the web (2) and further being located on the same side of the web (2) as the applicator nozzle (1) characterized in that the surface of the doctoring means (3) facing the web is outward curved in order to support the web (2) at the doctoring point.
2. Curtain coater according to claim 1, characterized by a gas-injection nozzle (5) located downstream in the travel direction of the web (2) after the applicator nozzle (1) so as to extend over the cross-machine width of the web (2) and adapted to blow gas via said gas-injection nozzle toward the coating mix curtain being applied from the applicator nozzle (1).
3. Curtain coater according to claim 1 or 2, characterized by a suction nozzle (4) extending over the cross-machine width of the web (2) and adapted to said doctoring means (3) so as to remove by suction the boundary air layer traveling on the surface of the web

(2).

4. Curtain coater according to claim 3, c h a r a c -  
t e r i z e d in that the inlet opening (7) of the  
5 suction nozzle (4) is adapted to rear wall of the  
doctoring means (3).

5. Curtain coater according to claim 3 or 4, c h a r -  
a c t e r i z e d in that the inlet opening (7) of the  
10 suction nozzle (4) is adapted to the surface of the  
doctoring means (3) facing the web (2).

6. Curtain coater according to any one of foregoing  
claims, c h a r a c t e r i z e d in that the surface  
15 of the doctoring means (3) facing the web (2) has a  
curved shape.

7. Curtain coater according to claim 6, c h a r a c -  
t e r i z e d in that the distance of the web (2) from  
20 the curved surface of the doctoring means (3) is in the  
range of 0-500  $\mu$ m.

8. Curtain coater according to any one of foregoing  
claims, c h a r a c t e r i z e d in that said  
25 doctoring means (3) is a doctor bar.

9. Curtain coater according to any one of foregoing  
claims, c h a r a c t e r i z e d in that the distance  
30 along the surface of the web (2) from the doctoring point  
of said doctoring means (3) to the application point  
under said applicator nozzle (1) is less than 50 mm.

10. Curtain-coating method for coating a moving web (2) of paper or board, in which method

- the web (2) to be coated is passed to a coater station,
- using an applicator nozzle (1) located above the web (2), the coating mix is therefrom applied to the surface of the web (2) in the form of a continuous curtain extending uniformly over the cross-machine width of the web (2), and
- the boundary air layer traveling along with the web is removed from the surface of the web (2) facing said applicator nozzle (1) with the help of a doctoring means (3) located upstream in the travel direction of the web (2) in front of the applicator nozzle (1),

characterized in that outward curved doctoring means (3) is used in order to support the web (2) at the doctoring point.

11. Curtain-coating method according to claim 10, characterized in that gas is blown toward the coating mix curtain being applied from the applicator nozzle (1) from a gas-injection nozzle (5) that is located downstream in the travel direction of the web (2) after the applicator nozzle (1) and is adapted to extend over the cross-machine width of the web (2).

12. Curtain-coating method according to claim 10 or 11,

